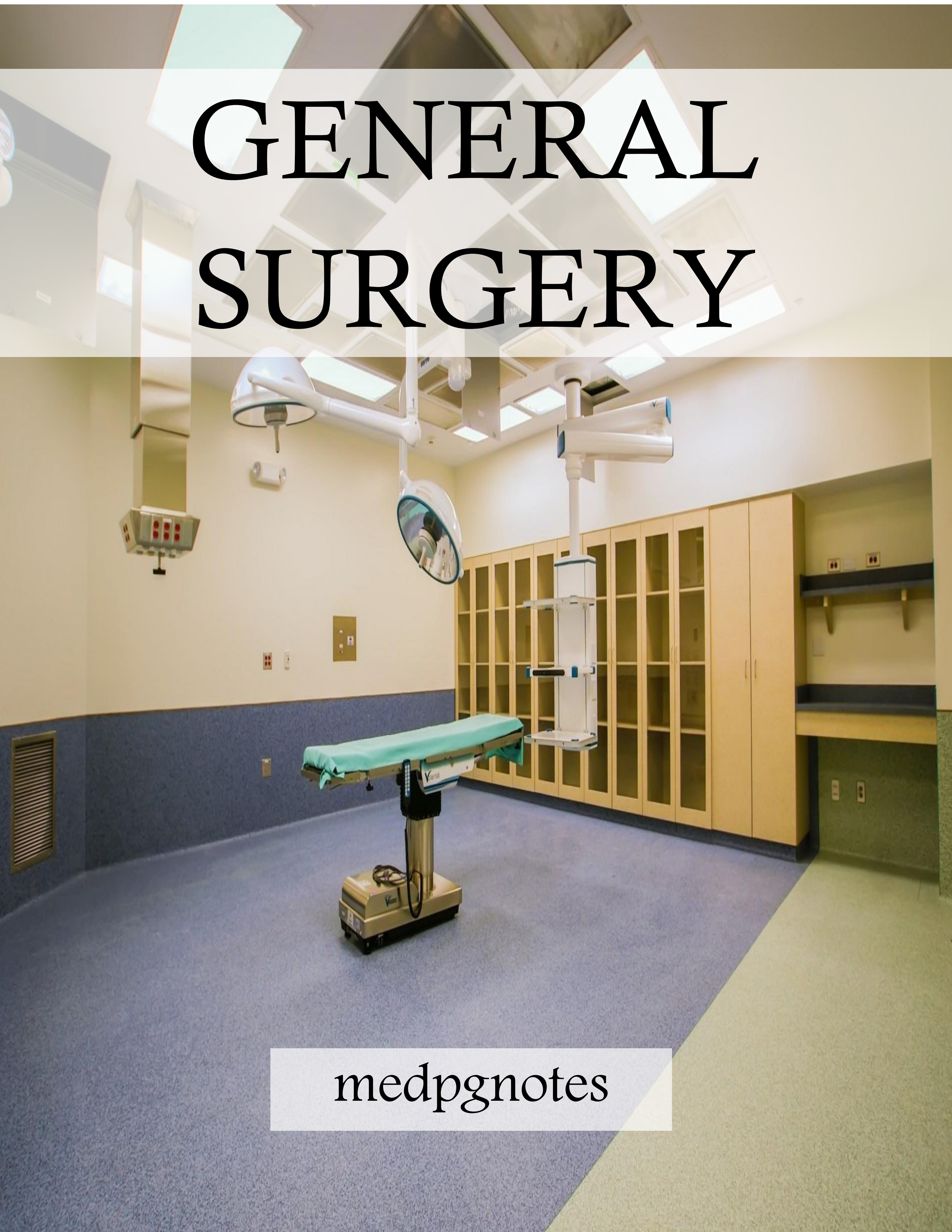
GENERAL SURGERY



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GENERAL SURGERY

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KEY TO THIS DOCUMENT

Text in normal font – Must read point. Asked in any previous medical entrance examinations

Text in bold font – Point from Harrison's text book of internal medicine 18th edition

Text in italic font – Can be read if you are thorough with above two.

WOUND, TISSUE REPAIR AND SCAR

WOUND

First sign of wound injury	Dilatation of capillaries
Degloving injury is	Avulsion injury
Pyrexia due to wound infection commonly occurs after	5th postoperative day
Reactionary hemorrhage occurs within	24 hours
Necrosis with putrefaction is called as	Gangrene
Organism associated with synergistic gangrene	Clostridium
Scoring system for severity of wound infection and is particularly useful for surveillance and research	Southampton grading system
In an open injury during toileting and debridement, muscle viability is detected by	Colour of muscle, Muscle contractility, Punctuate bleeding spots on cut edge
Limb salvage primarily depends on	Vascular injury
Prevention of wound infection is done by	Post op antibiotic therapy, Monofilament suture, Wound apposition
On 7th postoperative day, abdominal wound shows serosanguinous discharge	Impending wound dehiscence
NOT associated with abdominal wound dehiscence	Closure of wound with continuous suture
Does NOT favor post operative dehiscence	Vitamin B complex deficiency

BURST ABDOMEN

Burst abdomen	Drainage coming out through wound, Median incision is more risk, Transverse incision is better than paramedian incision
Burst abdomen	No pain/shock, early postoperative period, peritonitis rare
Burst abdomen usually occurs on	7th day
Pathognomic of burst abdomen	*Serosanguinous discharge*

TISSUE REPAIR

Golden period in treatment of open wounds	4 hours
Primary closure of incised wound must be done within	6 hours
Best skin graft for open wound	Autograft
During surgery	Nerves should be repaired before tendons
Hilton’s method	Protects vital structure
Delayed primary closure is indicated in	Traumatic amputation
Lacerated wound is best treated by	Thorough debridement
Patient has lacerated untidy wound of the leg and attended casualty after 2 hours. his wound should be	Debrided and sutured immediately
A patient with grossly contaminated wound presents 12 hours after an accident. his wound should be managed by	Thorough cleaning with debridement of all dead and devitalized tissue without primary closure

In treatment of hand injuries, greatest priority is	Restoration of skin cover
Dacron vascular graft is	Textile synthetic
Open skin wound with granulation tissue is covered by	Thin split thickness graft
Whole thickness graft (epidermis and dermis)	Wolfe's graft
Skin grafts will survive only if it is placed over	Muscle
Take in of split graft occurs when there is	*Favorable local condition*
Full thickness graft can NOT be obtained from	Axilla
NOT true about skin grafting	For large areas full thickness graft are used
NOT a wound closure technique	Vascular graft

SUTURES

Absorbable suture	Catgut, Polyglycolic acid, Vicryl
Non absorbable suture	Polypropylene, Dacron
Delayed absorbable synthetic suture material	Vicryl
Vicryl	Copolymer of glycolide and lectide
Vicryl is	Synthetic absorbable
Introduced catgut in surgery	John hunter
Preservative of catgut suture	Isopropyl alcohol
Catgut prepared from intestine of	Sheep
Polydioxanone	Undergoes hydrolysis and complete degradation
PDS is absorbed within	225 days
Material evoking least inflammatory tissue response	Polypropylene
Lembert suture	Seromucosal suture
Skin sutures should be removed by	1 week

WOUND HEALING

Regeneration	Repairing by same type of tissue
Healing occurs by	*Resolution or repair*
Vitamin absolutely essential for wound healing	Vitamin C
Should be normal for better wound healing	Hemoglobin should be normal
Wound healing is affected by	Age, Nutrition, Drugs, Temperature
Vitamin having inhibitory effect on wound healing	Vitamin E
Myofibroblasts are seen in	Healing wounds
Fibroblast in healing wound derived from	Local Mesenchyme
Normal human diploid fibroblasts stop proliferating in culture after	*50 doublings*
A clean incised wound heals by	Primary intention
Wound healing by secondary intention	Wound with Dehiscence
Wound contraction is seen in	Wound healing by secondary intention
Tensile strength of wound starts and increases after	3-4 days
Maximum collagen content of wound	17th to 21st day
Delayed wound healing is NOT associated with	Hypertension
NOT a cause of delayed wound healing	Improper mobilization

SCAR

MC site of hypertrophic keloid	Presternal area
Keloid is	Excessive scar
Keloid	Grows beyond wound margin, Excess dense collagen deposition, Appears few days after surgery
Characteristic of Keloid	Recurrence after Excision
First line treatment of keloid	Intralesional injection of triamcinolone
Best latest surgery for keloid	Excisional surgery followed by Intralesional Triamcinolone
Keloid formation NOT seen in	Eyelid
Worst position of scar	Sternum
Best scars seen in	Very old people
Hypertrophied scar	Develops within 2 to 6 weeks, Pruritis present
Hypertrophic scar	Proliferation of immature fibroblast
Characteristic of hypertrophic scar	No recurrence after excision

SURGICAL INFECTION

GENERAL FEATURES OF SURGICAL INFECTION

Introduction of gloves	William Halsted
Best method to prevent cross infection in wards	Proper hand washing
Causes of non surgical infection in surgical patient	Lower RTI, UTI, Clostridium difficle diarrhea
Permissible concentration of microorganisms in operating room	180/m3
Does NOT decrease airborne infection in operating room	Air conditioning
Prevention of infective disease transmitted by aerosol	Isolation ward, Face mask, Keep isolated in a room with negative pressure
A proactive approach to prevent unnecessary aspects of surgical stress response	Late mobilization
Surgical infections are mostly acquired from	Flora of the patient
Best way to prevent MRSA outbreak in indoor patient	Practice proper meticulous hand washing
NOT a risk of postoperative infection after malignancy	Age>50 years
Preoperative shaving ideally done	Just before operation

TYPES OF SURGERY

Aim of damage control surgery	Arrest hemorrhage, Prevent coagulopathy, Control contamination
Example for Clean Surgery	Hernioplasty
Gastrojejunostomy	Clean contaminated wound

PROPHYLACTIC ANTIBIOTICS

When do we have to start antibiotics to prevent postoperative infection	1 hour before surgery and continue after surgery
Antibiotic prophylaxis before surgery	One hour before surgery (schedule starts 48 hours before surgery)
Antibiotic prophylaxis is NOT indicated for	Cardiac catheterization
Preferred time of prophylactic antibiotic administration of surgery	At the time of induction of anesthesia
Ampicillin prophylaxis is given in	Rectal surgery
Antibiotic prophylaxis for	Colorectal surgery
Prophylaxis against staphylococci for colorectal surgery	**Cephazolin**
Prophylaxis for clean surgery	**Cephazolin/Vancomycin**
Prophylaxis for clean contaminated high risk genitourinary surgery	**Fluoroquinolones**
Prophylaxis for ocular surgery	**Sub conjunctival cephalosporins**

NOSOCOMIAL INFECTION

MC mode of transmission of nosocomial infections	Contact with hospital personnel
Nosocomial infection	May manifest within 48 hours after admission, new condition, may develop after discharge
Highest risk of nosocomial infection to patient	Admitted for elective surgery
NOT a cause of nosocomial infections	Tuberculosis

ARTERIAL DISORDERS

GENERAL FEATURES OF ARTERIAL DISORDERS

Commonest variation in arteries arising from arch of aorta	Left common carotid from brachiocephalic trunk
Obstruction at bifurcation of aorta	Gangrene of foot
Erythrocyanosis	Affects young girls, Cold peripheries, Pulses not palpable, Ulceration and gangrene of fingers
NOT a feature of peripheral arterial occlusion	Shock, Cyanosis, Rubor
Investigation of choice for asymptomatic old patient with bruit in carotid artery	Doppler USG
Maximum tourniquet time for upper limb	1 – 1 ½ hours
Reimplantation time for lower limb	8 hours
Least benefit in treatment of vasoocclusive crisis	Oxygen therapy
During arteriography dissection most commonly in	Gastroduodenal artery
Seldinger needle	Arteriography
NOT true about femoral artery cannulation	Single wall puncture is indicated in those with normal coagulation profile

BEURGER'S DISEASE/THROMBANGITIS OBLITERANS

MC cause of gangrene of foot in chronic smoker middle aged	Thrombangitis obliterans
Thrombangitis obliterans is mainly due to	Nicotine
Beurger disease	Common in males, Small and medium sized vessels are involved
Beurger's disease associated with	Smoking, Superficial thrombophlebitis
Feature of Beurger disease/Thrombangitis obliterans	Corkscrew arteries
MC symptom of peripheral artery disease	**Intermittent claudication**
Commonest site of TAO	Distal
A patient with critical lower limb ischemia presents with	Rest pain and ischemic ulcers
Veins are involved in	TAO
Most common cause of death in patients with Beurger's disease	Myocardial infarction
Internal elastic lamina is preserved in	**Thrombangitis obliterans**
Beurger's disease does NOT involve	Femoral artery
Buerger's disease does NOT affect	Lymphatics
NOT true about Beurger's disease	Veins and nerves are Never involved
NOT a clinical feature of thrombangitis obliterans	Absence of popliteal pulse

MANAGEMENT OF THROMBANGITIS OBLITERANS

Ankle brachial index	*Ratio of systolic blood pressure at the ankle divided by higher of the two arm systolic blood pressure*
Ankle brachial index reflects	*Degree of lower extremity arterial occlusive disease, manifested in reduced blood pressure distal to stenotic lesions*
ABI <0.3 is consistent with	*Critical ischemia, rest pain and tissue loss*
ABI	*Indirectly proportional to severity*
Drug used for Beurger's disease	Xanthinol micotinate
Useful but temporary improvement in patient's ischemic foot can be attained by	IV dextran 40
NOT used for thromboprophylaxis	Anti thrombin
Lumbar sympathectomy is the treatment for	Distal ischemia affecting skin of toes with rest pain
Sympathectomy relieve	Ischemic rest pain, ulceration
Lumbar sympathectomy is of value in management of	Distal ischemia affecting skin and toes
Lumbar sympathectomy is indicated in	TAO with skin changes, Beurger's disease
Lumbar sympathectomy is of value in	Distal ischemia affecting the skin of the toes
Treatment of primary hyperhidrosis	**Glycopyrrolate**
Drugs used for topical treatment of hyperhidrosis	*Aluminium tetrachloride, formaldehyde, zirconium*
Palmar hyperhidrosis	Endoscopic transthoracic cervical sympathectomy
Sympathectomy is NOT effective in	Intermittent claudication, Anhidrosis
NOT an indication of Lumbar sympathectomy	Claudication
Best responds to sympathectomy	Hyperhidrosis
Ganglion spared in lumbar sympathectomy	L1

In extraperitoneal approach, to left sympathectomy, structure may be injured	Ureter, Gonodal vessels
Nerve of Kuntz is an important landmark in	Cervicodorsal sympathectomy
In lumbar sympathectomy, sympathetic chain in usual position is likely to be confused with	Psoas minor, Genitofemoral nerve, Lymphatics
Removal of L1 ganglion in sympathectomy results in	Sterility
After sympathectomy, blood vessels	Dilate
Complication of bilateral lumbar sympathectomy	Retrograde ejaculation
Rest pain is NOT relieved by	Femoropopliteal byepass
Preferred material for femoropopliteal byepass	Saphenous vein
Dacron vascular graft is	Textile synthetic
Ideal graft for lesions below iliofemoral region	Reversed saphenous vein
Best material for below inguinal arterial graft	Saphenous vein graft upside down
Best material for aortic graft	Dacron
Best material available for aortic graft	Vein
Knitted Dacron artery graft	Can be easily incised and opening resutured
Graft used for infrainguinal byepass	Autologous vein
NOT used as graft material in PVD	PVC

AV FISTULA

Commonest cause of AV fistula	Congenital
MC cause of acquired AV fistula	Penetrating trauma
Local gigantism of leg and increased pulsation of lower limb veins	AV fistula
AV fistula	Local gigantism, Cardiac failure, Can cause ulcers, Cause excess bleeding in injury
AV fistula	Arterialization of veins, overgrowth of limbs, causes LV enlargement and LVH
Nicolandi/Branham sign	Compression cause bradycadia
Pulsating varicose vein in a young adult is due to	AV fistula
NOT true about AV fistula	Proximal compression cause increase in heart rate
NOT a feature of congenital AV fistula	Increased skin temperature
NOT a complication arising out of AV fistula for hemodialysis	Necrosis of distal part

THORACIC OUTLET OBSTRUCTION

MC nerve affected in thoracic outlet syndrome	Ulnar nerve
Commonest symptom associated with thoracic outlet syndrome	Pain in ulnar distribution
NOT seen in thoracic outlet syndrome	Wasting of forearm muscle
NOT a complication of surgery for thoracic outlet syndrome	Lymphocutaneous fistula
Thoracic outlet syndrome is primarily diagnosed by	Clinical examination
Allen’s test for patency of	Integrity of Palmar arch
Allen’s test is for	Adequacy of collaterals in hand
Allen’s test done for collateral arterial supply at	Wrist

Paget Schroetter syndrome	**Sequale of thoracic outlet obstruction, effort induced thrombosis, DVT of upper limb**

SUBCLAVIAN ARTERY STENOSIS

Commonest part of subclavian artery affected by stenosis	First part
In a subclavian artery block at outer border of first rib, arteries help in maintaining circulation	Subscapular, Thyrocervical trunk, Suprascapular artery
NOT involved in maintaining circulation in subclavian artery block	Superior thoracic artery

SUBCLAVIAN STEAL SYNDROME

Subclavian steal syndrome	Reversal of flow in ipsilateral vertebral artery
Subclavian steal syndrome results due to obstruction of	1st part of Subclavian artery
Commonest part of subclavian artery to be affected by stenosis	First part
Flow of vertebral artery in Subclavian steal syndrome	Reversed

AXILLARY ARTERY OBSTRUCTION

In case of occlusion occurs at 2nd part of axillary artery, blood flow is maintained by collaterals/anastomosis between	Deep branch of transverse cervical artery and subscapular artery
In obstruction of second part of axillary artery, anastomosis maintaining blood supply of upper limb	Deep branch of transverse cervical and subscapular artery

ANEURYSM AND PSEUDOANEURYSM

Mycotic aneurysm is an aneurysm infected because of	Both intravascular and extravascular infection
Mycotic aneurysm are seen in	Salmonella
Ascending aorta is the most common site of involvement of	Mycotic aneurysm
Site of abdominal aneurysm next to aorta	Splenic artery
MC risk factor of carotid artery aneurysm	*Embolization of mural thrombus*
Visceral aneurysm is most common in	Hepatic artery
Treatment of choice for femoral artery aneurysm	Ultrasound guided compression of neck of aneurysm, Thrombin injection, Bypass graft repair
Artery commonly involved in cirsoid aneurysm	Superficial temporal
Ramussen's aneurysm	Pulmonary aneurysm
MC peripheral aneurysm	Popliteal artery
NOT true about popliteal aneurysm	Uncommon among peripheral aneurysm
Pseudoaneurysms are commonly due to	Trauma
Psedoaneurysm in drug abusers is common in	Radial, brachial, carotid, femoral
MC site of pseudoaneurysm	Femoral

Hunterian ligature operation for	Aneurysm
Hunter's operation for	*Popliteal aneurysm (ligation of femoral artery in adductor canal)*

CLAUDICATION

Intermittent claudication is caused by	Arterial insufficiency
Intermittent claudication is defined as	Pain in muscle on exercise only
Intermittent claudication at the level of hip indicates	Bilateral iliac artery obstruction
Features of intermittent claudication	*Cramping pain typically in calf muscles, relieved by rest quickly, not affected by body position*
MC clinical presentation of idiopathic retroperitoneal claudication	Ureteral obstruction
Gluteal claudication due to obstruction of	Internal iliac artery
Pseudoclaudication is caused by	Lumbar canal stenosis
Pseudoclaudication due to compression of	Cauda equina
Drug used for intermittent claudication	*Cilostazol*

EMBOLISM

Arterial thrombus	Homocystinemia, APLA
Thrombus in femoral artery of 40 year male because of	Atheroma
NOT a risk factor for thromboembolism	Hypertension
Thromboembolism after pelvic surgery is usually from	Femoral
Embolic arterial occlusion	Anesthesia, absent pulse, no previous history
Atheroembolism	**Blue toe syndrome**
NOT true about embolic phenomena	Muscles are unaffected
Leiriche syndrome	Obstruction of bilateral aortic or iliac arteries
NOT a symptom of Leiriche syndrome	Gangrene localized to foot
Forgarty catheter used for	Removal of embolus from blood vessels
Forgarty's catheter is used for	Removal of blood clots from arteries
Management of iliac artery embolism	Embolectomy
Treatment of acute femoral embolus	Embolectomy
Interruption of Inferior vena cava done for	Iliofemoral thrombosis
IVC filter	**Greenfield filter**

VENOUS DISORDERS

GENERAL FEATURES OF VENOUS DISORDERS

Hereditary hemorrhagic telangiectasia is also known as	Osler Rendu Weber Syndrome
Harvey sign	Related to use of venous filling after emptying a length of vein

Virchow's triad	Venous stasis, Injury to veins, Blood hypercoagulability
NOT a component of virchow's triad	Venous thrombosis
Deficiency of which is NOT associated with increased incidence of thrombosis	Lipoprotein A
NOT true about axillary vein thrombosis	Embolectomy is done in all cases
NOT used in treatment of superficial venous thrombosis	Immediate anticoagulation, Rest and elevation
MC cause of superficial thrombophlebitis	Intravenous infusion
Extensive surgical debridement, decompression of amputation NOT indicated in	Acute thrombophlebitis
Commonest site of venous ulcer	Lower 1/3rd of leg and ankle
Bisgard treatment is for	Venous ulcer
SEPS is a procedure for	Vein
Treatment of chronic venous insufficiency	*Pressure gradient stockings*

FEATURES OF DEEP VENOUS THROMBOSIS

In pregnant women, DVT is common in	*Left side*
Vein concerned for DVT	*Anterior and posterior tibial vein*
MC vein to get thrombosed	Posterior tibial vein
MC site of venous thrombosis	Soleal vein
DVT commonly after	Total hip replacement
NOT a cause of DVT	Sickle cell anemia
NOT a risk factor for DVT	Age less than 40
NOT a cause of deep vein thrombosis	Diabetes mellitus
Do NOT increase chances of deep vein thrombosis	Superficial thrombophlebitis
Deep vein thrombosis	Protein C deficiency, antithrombin III deficiency, antibodies to cardiolipin
Commonest presentation of DVT	Calf tenderness
Earliest sign of DVT	Calf tenderness
Lisker sign	*Deep vein thrombosis*
Feature of DVT	Low grade fever
Fever and pain in leg at 4th postoperative day of major surgery in an elderly man	Deep venous thrombosis
MC long term sequale of DVT	*Development of static ulcer*
Complication of deep vein thrombosis	**Post phlebitic syndrome/Chronic venous insufficiency**
Prevention of post phelebitic syndrome	**Daily use of below knee stocking (30 – 40 mm Hg)**
White leg is due to	Deep femoral vein thrombosis
Patient on DVT prophylaxis, perforator does NOT connect superficial to deep vein	Lower thigh
NOT a feature of DVT	Claudication
DVT NOT seen in	Subungual melanoma

MANAGEMENT OF DEEP VENOUS THROMBOSIS

Sensitivity of d-dimer	**80% for DVT, 95% for Pulmonary embolism**
DVT postoperatively best diagnosed by	Ascending venography
Investigation of choice for DVT	Doppler
Duplex scan	Ultrasound with Doppler

DVT is best diagnosed by	Duplex ultrasonography
Best way of preventing ambulation in postoperative period	Prophylactic heparin
Best way of preventing development of DVT in post operative period	Prophylactic heparin
Initial therapy for documented deep venous thrombosis in a postoperative case	Intravenous heparin therapy
Diabetic female on INH and rifampicin for TB suffers DVT. She is on warfarin. PT is not raised. next step	Use LMW heparin
NOT done for DVT	Bed rest

FEATURES OF VARICOSE VEINS

Venous flow in lower veins in standing position does NOT depend on	Arterial blood pressure
Number of valves in great saphenous vein	*14 – 16 valves*
Great saphenous vein opens into	Femoral vein
Short saphenous vein is a tributary of	Posterior tibial vein
Anatomy of great saphenous vein	Starts as a continuation of medial marginal vein
Greater saphenous vein	*Superficial to fascia lata of thigh*
Great saphenous vein and short saphenous vein in lower limb are connected by	*Communicating veins*
Most important perforator of lower limb is between	Long saphenous vein and femoral vein
Direction of flow of venous blood in conditions affecting perforating veins of lower limb	Deep to superficial
Dodd perforator	*Mid thigh*
Boyde perforator	*Below knee*
Cockett perforator	*10 cm above ankle*
May Kruster	*Ankle perforator*
Indirect perforators connect superficial and deep veins through	*Muscular veins*
Perforators are NOT present	Below inguinal ligament
Varicose veins	DVT, AV fistula, Prolonged standing, Obesity
Varicose vein commonly seen in	Long saphenous vein
Champagne leg deformity	*Varicose vein*
A pt present with pulsating varicose veins of lower limb	Klippel Trenaunay syndrome
Klipper Trenaunay syndrome	*Longer leg, lateral vestigial vein*
Brodie trendelenberg test positive in	Saphenofemoral incompetence
Test to detect perforator incompetence	Trendelenberg test
Commonest complication of varicose veins stripping	Ecchymosis
Lymphedema and Lipodermatosclerosis coexist and commonly occur in	Varicose veins

MANAGEMENT OF VARICOSE VEINS

Surgery indicated in	Deep vein incompetence without DVT, Varicosity >3mm in diameter, Saphenofemoral incompetence

Varicose veins	5% oily phenol is an appropriate sclerosant for venous sclerotherapy
Appropriate sclerosant for venous sclerotherapy	5% oily phenol
Injection sclerotherapy for varicose veins is by	Phenol, Ethanolamine oleate
NOT used as sclerosant	Ethyl alcohol
Operations for varicose veins best accomplished by	Stripping
Trendelenberg operation	Flush ligation of superficial varicose veins
Cocket and Dodd's operation is for	Subfascial ligation
Treatment of varicose veins with saphenofemoral incompetence and normal perforator	Saphenofemoral flush ligation with stripping
An operated case of varicose veins has a recurrence rate of	10%
First treatment of rupture of varicose veins at ankle	Direct pressure and elevation
Trans illuminated powered phlebectomy is done using	*TriVex*
Surgery for varicose veins NOT attempted in presence of	DVT
NOT done for varicose veins	Radiotherapy
NOT a treatment for Saphenofemoral incompetence with competent perforators	Sclerotherapy

SVC OBSTRUCTION

Breathlessness, facial swelling, dilated veins on chest wall	Superior vena caval obstruction
SVC syndrome is commonly associated with	*Lymphoma*
Alternate pathway in SVC obstruction	Lateral thoracic vein, Internal thoracic vein, Hemiazygous vein
NOT an alternate pathway in SVC obstruction	Vertebral venous plexus

IVC OBSTRUCTION

Obstruction of inferior vena cava produce	Thoracoepigastric dilatation
Opens up in IVC obstruction	Superior epigastric and inferior epigastric vein, Azygous and ascending lumbar vein, Lateral thoracic vein and prevertebral vein
NOT open up in IVC obstruction	Superficial epigastric and ilelumbar vein

LYMPHATIC DISORDERS

GENERAL FEATURES OF LYMPHATICS

Lymph is essentially a	Tissue fluid
Lymphatic flow from foot	Increased by massaging foot

Lymphatics found in	Dermis of skin
Function of lymphatics	Carries protein, Fat absorption, Protective role in infection
Flow of lymph from lower limb	Increased by massage of foot > increased with change from supine to standing position
Lymphatic circulation	*Normal 24 hour lymph flow is 2 – 4 L, peristaltic contractions are the principal factor propelling the lymph in collected lymphatics, proteins return to blood via lymphatics*
Chyluria is seen in	Obstructive Lymphedema, Tuberculosis
Pseudochylous ascites seen in	Malignant ascites
Filarial obstruction in filariasis is due to	Lymphatic fibrosis

LYMPHEDEMA

Milroy’s disease	Congenital lymphedema
Milroy disease	Familial, Congenital lymphedema
Congenital lymphedema	Bilateral, Involve lower limb, Almost always manifest before puberty, Acute lymphangitis may occur
Primary lymphedema	Associated with Milroy’s disease, Lymphangiosarcoma may occur
MC cause of lymphedema all over the world	Filariasis
Commonest cause of unilateral pedal edema in India	Filariasis
Commonest cause of lymphedema of upper limb	Filariasis
MC cause of lymphedema of upper limb	Post mastectomy
Unilateral lymphedema of leg	Taking a family history, Looking for chronic infection of foot, Looking for filariasis
NOT a cause of unilateral lymphedema in leg	Early malignant disease of testis
Grade I lymphedema	Edema disappearing after overnight rest
Lymphedema cutanea tarda occurs after	35 years
Lymphovenous anastamosis is done for	Filarial lymphedema
Stemmer’s sign	*Lymphedema*

LYMPHANGITIS

Treatment of acute lymphangitis	Antibiotic and rest

LYMPHADENOPATHY

Bilateral epitrochlear lymphadenopathy	Syphilis, Sarcoidosis, Toxoplasmosis
Investigation of choice for detecting small paraoaortic lymph nodes	CT scan
Investigation of choice for lymph node enlargement	Lymph node biopsy
3.5 mm hard lymph node in submandibular region. examination of head and neck did not yield any lesion	Triple endoscopy

Chronic lymphadenopathy limb predispose to	Thickening of skin, recurrent soft tissue infections, sarcoma

LYMPHADENITIS

Commonest cause of acute lymphadenitis in India	Staphylococcal skin infection
Tuberculous lymphadenitis	Cervical, contact or drinking infected milk, children and young adults
Tuberculous lymphadenitis of neck commonly involves	*Upper jugular nodes*

LYMPHANGIOMA AND LYMPHANGIOSARCOMA

Lymphangioma	Congenital sequestration of lymphatic, Cystic hygroma is a lymphangioma
Most common cause of lymphangiosarcoma	Postmastectomy edema of arm

LYMPHANGIOGRAPHY

Lymphangiography of leg is performed by	Dissecting lymphatics through an incision on the dorsum of foot
Edema of right leg for evaluation, lymphangiogram will show	Hypoplasia of lymphatics

NECK

GENERAL FEATURES OF NECK

Zone III of neck	*Above mandible*
Danger space in neck	*Space of Grodinsky (between alar fascia and prevertebral fascia)*
Probable cause of sudden death in case of superficial injury to neck	Air embolism through external jugular vein
Penetrating neck injury defined by	Breach of platysma

DISEASES OF MANDIBLE

Pierre Robbin syndrome	Cleft palate with mandibular hypoplasia and respiratory obstruction
Primary defect in Pierre Robbin syndrome	Micrognathia

TRIANGLES OF NECK

NOT an anterior triangle of neck	Supraclavicular
Structure superficial to myelohyoid in anterior digastric triangle is	Mylohyoid artery and nerve
Floor of digastric triangle	Mylohyoid, Hyoglossus
Posterior boundary of carotid triangle	Sternocleidomastoid
Infrahyoid ribbon muscles are contained in	Muscular triangle
Hypoglossal nerve related to	Digastric triangle, Carotid triangle
On both sides, submental triangle is bounded by	Anterior digastrics
Anatomical landmark in defining posterior triangle of neck	Superior border of clavicle, Anterior border of trapezius, Posterior border of sternocleidomastoid muscle
NOT an anatomical landmark for defining borders of Posterior triangle of Neck	Posterior border of Anterior Scalene muscle
Superficial incision on posterior triangle leads to	Difficulty in shrugging the shoulder
Highest and genuine content of occipital triangle	*Spinal accessory nerve*
Lesser triangle contains	*Lingual artery*
Contents of Farabeuf triangle	*Internal jugular vein, facial nerve, hypoglossal nerve*

SWELLINGS OF NECK

Midline swelling	Suprasternal lymphnode, Thyroglossal cyst, Submental lymphnode
Painless midline neck swelling	Thyroglossal cyst
Dermoid situated in	Midline of neck
Neck swelling moves on swallowing	Thyroid
Does NOT move on deglutition	Sublingual dermoid
NOT a midline swelling	Branchial cyst

CAROTID BODY TUMOR

Carney triad	*Gastric GIST, paraganglioma, pulmonary chondroma*
Carotid body originate from	*Third branchial arch*
Carotid body tumor	Unilateral, Middle age group, Commonly seen in high altitude habitants, 10% familial, Non chromaffin paraganglioma, Surgical resection is the treatment, Good prognosis, Rarely metastasize
Lyre sign	Carotid body tumor
Schambling classification	*Carotid body tumor*
NOT the site for paraganglioma	Geniculate ganglion
Most characteristic ultrastructural feature of paraganglionoma on electron microscopy	Dense core neuroendocrine granules
Investigation contraindicated in carotid body tumor	FNAC

Judging the clinical course of carotid body tumor	*Almost impossible*

NECK DISSECTION

Pre and paratracheal nodes	*Level VI*
Structures preserved in functional neck dissection	Sternocleidomastoid, Internal jugular vein, Accessory nerve
Level of Lymph nodes removed in Modified Radical Neck dissection	Level I To V
Structure saved in neck dissection in surgery	Phrenic nerve
Structure preserved in radial neck dissection	Vagus nerve
Structures preserved in radical neck dissection	Vagus, Tail of parotid, Parotid and post auricular nerve
Radical neck dissection does NOT include	Phrenic nerve
Blow out carotid characteristically seen in	Radical neck dissection
Post radical neck dissection shoulder syndrome	Shoulder pain, shoulder weakness, shoulder drooping

CYSTIC HYGROMA

Earliest tumor to appear after birth	Cystic hygroma
Cystic hygroma	Develops from jugular congenital lymphatic sequestration, Associated with Turner syndrome, Posterior cervical swelling, Best treatment surgical excision
Cystic compressible translucent swelling in posterior triangle of neck	Cystic hygroma
Brilliantly transilluminant	Cystic hygroma
Spontaneous regression is NOT possible in	Cystic hygroma
NOT true about cystic hygroma	Aspiration is diagnostic
NOT true about cystic hygroma	Pulsatile
NOT true about cystic hygroma	Radiotherapy
Best treatment for cystic hygroma	Surgical excision
Treatment of Cystic hygroma	Excision of cyst at early stage

BRANCHIAL ANAMOLY

Branchial anomaly	Most commonly due to 2nd branchial remnant
Branchial anomaly commonly due to	2nd branchial remnant
Brachial sinus passes between	Two carotids
Commonest site of branchial cyst	Upper 1/3rd of sternocleidomastoid
Usual site of branchial cyst	Anterior border, upper 3rd of sternomastoid
Brachial cyst	Walls consist of lymphoid tissue, Filled with straw coloured fluid with cholesterol crystals
Branchial cyst arise from	2nd branchial cleft
Incorrect about branchial cyst	Always lined by squamous epithelium
Commonest treatment of brachial cyst	Excision
MC site of internal opening of brachial fistula	Tonsillar fossa

THYROGLOSSAL CYST

Hyoid bone closely associated with	Thyroglossal cyst
Situated in relation to hyoid bone	Thyroglossal cyst
Swelling moves on protrusion of tongue	Thyroglossal cyst
MC site of thyroglossal cyst	Subhyoid
Management of thyroglossal cyst	Central portion of hyoid excised
Sistrunk operation is for	Thyroglossal cyst
Thyroglossal fistula due to	Incomplete removal of thyroglossal cyst
Never a cause of thyroglossal fistula	Congenital

CLEFT LIP

Commonest type of cleft lip	Combined with cleft palate
Midline cleft lip is due to failure of fusion of	Two medial nasal process
Cleft lip is due to non fusion of	Maxillary process with medial nasal process
Unilateral cleft lips are common on	Left side
Unilateral cleft lip is associated with	Posterior displacement of alar cartilage
Millard's rule of 10 for cleft lip	10 lbs, 10 weeks, 10 gm hemoglobin
Methods for operating cleft lip	Millard method, Tennison method, Le Mesurier's method, Thompson method
In cleft lip operation, stitches are removed on	4th day
Main function of treated cleft lip	Cosmetic

CLEFT PALATE

Present in 20% of time with a chromosomal disorder	Cleft palate
Cleft palate ideally repaired at	1 year (6 months - 1 year)

SURGERIES RELATED TO HEAD AND NECK

Face lift/Rhytidectomy operation	Removal of wrinkles in forehead
Rhinoplasty ideally done at	16 years
Hyne's pharyngoplasty is done to improve	Speech

PLASTIC AND RECONSTRUCTION SURGERY

GENERAL FEATURES OF PLASTIC AND RECONSTRUCTION SURGERY

Best dressing	Skin
Skin is the best dressing	Joseph lister
First structure to be repaired in hand injury	Bone

GRAFTS

Skin graft	For large areas partial thickness graft is used, Partial thickness graft involves epidermis and part of dermis, Full thickness graft involves epidermis, dermis without subcutaneous tissue. Full thickness graft has cosmetic value
Best skin graft for open wound	Autograft
Skin graft for facial wounds taken from	Post auricular region
Graft not taken up on	Skull bone
Organism causing destruction of skin graft	Streptococcus
Within 48 hours of transplantation, skin graft survives due to	Plasma imbibitions
After doing a Thoracoabdominal graft, a person developed weakness in legs. It is due to	Discontinuation of Arteria Radicularis Magna
Wolfe's graft	Full thickness graft
Full thickness graft NOT obtained from	Supraclavicular
Full thickness graft can NOT be taken from	Back of neck
Theirsch graft	Thick split skin graft
Skin grafting is absolutely contraindicated in	Streptococcal infection
Taking in means	Revascularization of graft
Split skin graft applied over	Muscle
Split skin graft of children harvested from	Thigh
Does NOT take split thickness graft	Skull
Ideal graft for leg injury with 10*10 cm exposed bone	Pedicle graft

FLAPS

Best procedure to be done after an injury to leg associated with exposure of underlying bone and skin loss	Pedicle flap
Abbe Estlander flap is used for	Lip
Abbey estlander flap based on	Labial artery
Axial flap	Creates its own vessels within it
Subdermal plexus forms vascular basis for	Randomized flaps
Skin flap is NOT used in	Burn wound

DISEASES IN GENERAL SURGERY

GENERAL FEATURES OF DISEASES OF GENERAL SURGERY

In the acronym SWELLING for history taking N stands for	Noise (thrill/bruit)
Implantation dermoid is commonly seen in	Finger
Askin's tumor	Primitive Neuroectodermal tumor of chest wall

Ainhum is seen in	Base of toe
Localized idiopathic fibrosis	Riedel's struma, Sclerosing cholangitis, Panniculitis
Glomangioma	*Thrombosis can occur*

LIPOMA

Universal tumor	Lipoma
MC soft tissue tumor in adults	Lipoma
NOT a brilliantly transilluminant swelling	Lipoma
Decrum's disease common in	Back
Decrum's disease	Multiple lipomatosis
Lipoma becomes malignant at	Retroperitoneal
Physaliferous cell (large vacuolated cells)	*Liposarcoma*
NOT true regarding liposarcoma	Frequently give rise to embolisation in lymphatics

SEBACEOUS CYST

Epidermoid cyst	Punctum is present, Keratin is present, May turn malignant
Sebaceous cyst	Retention cyst
Sebum in sebaceous cyst consists of	Keratin, desquamated epithelial cells
Cock's peculiar tumor	Infected sebaceous cyst
Sebaceous cyst does NOT occur in	Sole

STRAWBERRY HEMANGIOMA

Congenital hemangioma	It stops growing after birth, Fully mature at birth, NICH variety persists, RICH variety involutes, Calcification can occur
Strawberry angioma is due to involvement of	Capillaries
11 month child erythematous lesion with central clearing decreasing in size	Strawberry angioma
Spontaneous regression	Strawberry hemangioma
Gorham syndrome	*Cutaneous hemangioma with massive osteolysis*
Best treatment of strawberry angioma	Excision
Latest drug for hemangioma	*Propanolol*

CAPILLARY HEMANGIOMA

Best cosmetic result for large capillary hemangioma (Portwine)	Laser ablation
Proteus syndrome is associated with	*Port wine stain*
Does NOT change throughout life	Port wine stain

SALMON PATCH

Spontaneous regression	Salmon patch, Strawberry hemangioma
Blue patch over eyelid, disappeared at the age of 1 year	Salmon patch
Salmon patch is associated with	Interstitial keratitis
Salmon patch disappears by	1 year

KERATOACANTHOMA

A flesh colored, dome shaped, 1.2 cm nodule appear over right ear lobe of a 60 year old man in the past month. A central keratin filled crater is surrounded by proliferating squamous epithelium. The lesion regresses over next month and disappears	*Keratoacanthoma*
Keratoacanthoma	Self healing nodular lesion with central ulceration
NOT a premalignant lesion for skin cancer	Keratoacanthoma

DESMOID TUMOR

Desmoid tumor	Often seen below umbilicus, Unencapsulated, Common in women, Metastasis do not occur
Desmoid tumor occurs in	Abdominal wall
FALSE about Desmoid tumor	Highly radiosensitive
Recurrent fibroma refers to desmoids tumor occurring in	Scar tissue
Treatment of desmoid tumor	Wide local excision

ULCER

Edge of a septic ulcer is	Sloping
Feature of healing ulcer	Pink granulation tissue
Ulcer with everted edge	*Malignant ulcer*
NOT indicated for arterial leg ulcer	Elevation of limb
Bedsore is an example of	Trophic ulcer
Trophic ulcer	Leprosy, Syringomyelia
Pressure sore is due to	Neurological deficit

MARJOLIN ULCER

Ulcer in burn tissue	Marjolin's ulcer
Marjolin ulcer	Develop in long standing scar, Slow growing lesion, Squamous cell carcinoma develops

Marjolin’s ulcer	Squamous cell carcinoma in burns scar
NOT a feature of Marjolin’s ulcer	Early metastasis
Chronic lymphedematous limb do NOT predispose to	Marjolin ulcer

CELLULITIS

Commonest cause of cellulitis	Streptococcus pyogenes
Cellulitis of lower limb	Infection of skin and subcutaneous tissue, Fever and malaise is common, Margins are distinct, Involved site is red and hot
Treatment of sporadic streptococcal cellulitis	Penicillin

ABSCESS

Most pathognomic in pelvic abscess	Mucopurulent discharge
MC site of intraperitoneal abscess	Right inferior intraperitoneal space
MC intraperitoneal abscess following peritonitis	Pelvis
Commonest site of intra abdominal abscess	Pelvis
MC site of intra abdominal abscess following laparotomy	Subhepatic
Morrison’s Pouch is located in	Right sub hepatic space
Subdiaphragmatic right posterior intraperitoneal space	Morrison’s pouch
Subphrenic abscess	Toxemia
Mycotic abscess due to	Fungal infection
NOT a cause of chronic thick walled pyogenic abscess	Virulent strains of organisms
NOT associated with infection of psoas abscess	Ribs
Felon is	Pulp space infection
Underlying cause of persistence of a sinus or fistula is	Presence of malignancy, unrelieved obstruction, foreign body, non dependent drainage
Sub diaphragmatic abscess is best diagnosed by	USG
Antibioma treated by	Complete resection
Treatment of pouch of Douglas abscess	Posterior colpotomy
Colpotomy for	Pelvic abscess

PERITONEUM AND RETROPERITONEUM

GENERAL FEATURES OF PERITONEUM AND RETROPERITONEUM

Subdiaphragmatic peritoneum is more absorptive than pelvic peritoneum because	Wide surface
Peritoneal recess associated with 4th part of duodenum	Retroduodenal recess
Parietal peritoneum is lined by	Simple squamous
Pain sensitive structure	Parietal peritoneum
Least irritation of peritoneal cavity	Blood

Fold of treves	Ileoappendicular fold of peritoneum
Functions of peritoneum	Lubrication, Pain sensitive, Enzymatic digestion, Phagocytosis
NOT a function of peritoneum	Hormonal release
Retroperitoneal organs	*Duodenum, ascending and descending colon, sigmoid colon, pancreas, kidney, great vessels*
Positive Kehr sign	Hemoperitoneum

DISEASES RELATED TO PERITONEUM

Shifting dullness	Hemoperitoneum
MC cause of acute mesenteric adenitis	Idiopathic
Acute mesenteric lymphadenitis by	Yersinia
Retractile mesenteritis	Ormand's syndrome
Odourless peritoneal fluid	Perforated peptic ulcer
Peritoneal mice	Appendices epiploicae

PERITONITIS

Apart from Escherichia coli, other most common organism implicated in acute bacterial peritonitis	Bacteroides
Commonest organism seen in peritonitis	E.coli
MC cause of acute peritonitis in adult male	Perforated appendix
MC cause of Spontaneous bacterial peritonitis	Staphylococci
MC cause of primary spontaneous peritonitis	E.coli
MC cause of generalized peritonitis in 40 year adult male	Duodenal ulcer perforation
Spontaneous bacterial peritonitis in cirrhosis	More than 200 cells/cu mm
Primary peritonitis with pneumococcus is associated with	Nephrotic syndrome
Tuberculous peritonitis	*Caseating peritoneal nodules are common, loculated ascites common, barium meal study is extremely useful, surgery is not indicated*
Meconium peritonitis	Before and after birth
Intraabdominal calcification in a plain X ray	Meconium peritonitis
NOT true about meconium peritonitis	Septic peritonitis
Peritonitis and massive contamination because of duodenal leak, management of choice	TPN
Early surgery is indicated in	Biliary peritonitis, Typhoid peritonitis

RETROPERITONEUM

Causes of retroperitoneal fibrosis	*Ormond disease, carinoid, aortic aneurysm*

MC organ involved in retroperitoneal fibrosis	Ureter
Symptoms of retroperitoneal fibrosis are produced mainly by	*Compression of adjacent structures*
Ormond disease	Idiopathic retroperitoneal fibrosis
MC complication of Ormond syndrome	*Hydronephrosis*
MC retroperitoneal tumor	Liposarcoma

PNEUMOPERITONEUM

Air under both side of diaphragm	Perforated meckel diverticulum, Uterine rupture following illegal abortion, Perforation of duodenal ulcer, Ruptured appendix
On standing position, Chest X ray erect shows air under diaphragm	Pneumoperitoneum
Air under diaphragm on chest X ray	Duodenal perforation
Gas under diaphragm NOT seen in	Spontaneous rupture of esophagus
NOT seen in pneumoperitoneum	Bradycardia
Gas used to create pneumoperitoneum	CO2, O2, room air, N2O
Rigler sign	*Pneumoperitoneum*
Cupola sign on abdominal X ray	*Pneumoperitoneum*
Best view to visualize minimum pneumoperitoneum	Left lateral decubitus with horizontal beam
Best investigation for air in peritoneal cavity	X ray abdomen erect view
Investigation of choice for pneumoperitoneum	Plain X ray chest
Treatment of pneumoperitoneum as a result of colonoscopic perforation	Closure and lavage

MESENTERIC CYST

Mesenteric cyst	Chylolymphatic cyst has separate blood supply, Moves perpendicular to line of attachment
Mesenteric cyst	Moves perpendicular to mesentry
Commonest type of mesenteric cyst	Chylolymphatic
NOT a clinical feature of Mesenteric cyst	Common in infants
Treatment of choice for chylolymphatic cyst	Enucleation
Mesenteric cyst whose removal entrails removal of part of gut	Enterogenous cyst

PSEUDOMYXOMA PERITONEI

Causes of pseudomyxoma peritonei	Mucocele of appendix, Mucinous ovarian tumor, Adenocarcinoma of colon, Carcinoma ovary
True about pseudomyxoma peritonei	Cytoreductive surgery needed, Always appendicectomy indicated, Locally malignant
Pseudomyxoma peritoeni associated with	Ca cervix, Rupture of ovarian cyst, Rupture of appendix
Pseudomyxoma peritonei commonly arise from	Appendix
NOT true about pseudomyxoma peritonei	Common in males

HERNIA AND UMBILICUS

ANATOMY OF ABDOMINAL MUSCULATURE AND INGUINAL CANAL

External oblique, internal oblique and transverse oblique muscles are compared with	*Digastric*
Nerve of anterior abdominal wall between	*Transverse abdominis and internal oblique*
Inguinal canal	Intermuscular canal, Superficial inguinal ring is situated superior and lateral to pubic tubercle, In males vas deferens pass through it, Artery and nerve supply pass through it, Conjoint tendon forms part of posterior wall, Superficial ring is found in external oblique aponeurosis, Internal oblique forms both anterior and posterior wall
Inguinal canal	Conjoint tendon forms posterior wall, superficial ring is found in external oblique aponeurosis, internal oblique forms both anterior and posterior wall
Posterior wall of Inguinal canal is formed by	Conjoint tendon, Fascia transversalis
Inguinal canal bound posteriorly by	Transversalis fascia, Internal oblique tendon, Conjoint tendon
Inguinal canal bounded posteriorly by	Interfoveolar ligament, Parietal peritoneum, Fascia transversalis
Inguinal canal is NOT bound posteriorly by	Lacunar ligament
Does NOT form posterior wall of inguinal canal	Internal oblique
Inguinal canal is NOT bounded posteriorly by	Lacunar ligament
NOT true about inguinal canal	Deep ring is an opening in transverses abdominis
Passing through inguinal canal in females	Ilioinguinal nerve, Round ligament of uterus, Lymphatics from uterus
Vas deferens passes through	Inguinal canal
NOT passing through inguinal canal in females	Inferior epigastric artery
Superficial Inguinal ring is related	Superomedial to Pubic tubercle
Superficial inguinal ring is a defect in	External oblique aponeurosis
Deep Inguinal ring is a defect in	Fascia transversalis
Does NOT pass through deep inguinal ring	Ilioinguinal ring
Poupart ligament (inguinal ligament)	*Gimbernat and Cooper ligament are its expansions*
Space of Bogros (Retroinguinal space)	*Extraperiotoneal space situated deep to inguinal ligament. It is limited by fascia transversalis anteriorly, peritoneum posteriorly and iliac fascia laterally*
Structures passing behind inguinal ligament	Femoral branch of genitofermoral nerve, Psoas major, Femoral vein
Medial border of Femoral Ligament	Lacunar Ligament
NOT a boundary of Inguinal triangle	Linea alba

Internal spermatic fascia is derived from	Fascia transversalis
Internal oblique, external oblique, transverses retracted laterally in	Spigelian hernia repair
Associated with external oblique muscle	Poupart ligament, Lacunar ligament, Superficial inguinal ring
NOT a border of Hasselbach triangle	Vas deferens
Prune belly syndrome is associated with	*Vesicoureteric reflux*
Prune belly syndrome is associated with	*Hydroureter and hydronephrosis*

GENERAL FEATURES OF HERNIA

Hernia	External abdominal hernia is common, Direct hernia usually acquired, Direct hernia in older age
Hernia is prevented by	External oblique
Does NOT predispose to abdominal wall dehiscence	Old age

DIFFERENT TYPES OF HERNIA

MC content in hernia en glissade	Sigmoid colon
Spigelian hernia is in	Subumbilical region, Lateral border of rectus abdominis
True about Epigastric Hernia is	Located above the umbilicus and always in the midline
NOT a boundary of Petit triangle	*Internal oblique*
Petit's hernia is	Inferior lumbar hernia
A newborn presents with mild anterior abdominal wall defect with characteristic spontaneous disappearance at age of 4 years	Umbilical hernia
Indication of surgery in umbilical hernia in children	Failure to disappear by 3 years, >2cm size, Symptomatic
Mayo operation for	Umbilical hernia
Paraumbilical hernia	Mayo's repair
Content of Littre's hernia	Meckel's diverticulum
Sac containing only a portion of circumference of intestine	Richter hernia
Richter hernia commonly seen in	Femoral hernia
Strangulated Richter hernia is commonly seen in	Femoral hernia
Richter hernia may allow	*Normal passage of stool*
Hernia with hydrocele	Gibbon's hernia
Hernia into pouch of Douglas	Berger's hernia
Hernia simulating peptic ulcer	Fatty hernia of linea alba
Viscera forms wall of	Sliding hernia
In sliding hernia, posterior wall of sac on right side formed by	*Caecum*
Hernia in which sac lies under fascia covering pectineus muscle	*Cloquet hernia*
Hernia through gap in Lacunar ligament	*Laugier's hernia*
Hernia lying behind femoral vessels occurring with congenital dislocation of hip	*Narath*

Trus cannot prevent progress of	Sliding hernia
Howship Romberg sign	Associated with obturator hernia
Ventral hernia is	Incisional hernia
Recurrence after primary repair is seen in	Incisional hernia
Causes of recurrent hernia	Absorbable sutures, Sliding hernia, Missed sac, Infection

INGUINAL HERNIA

Landmark to differentiate between inguinal and femoral hernia	Pubic tubercle
Risk factors for inguinal hernia	Family history, Weight lifter, COPD, Obesity
Inguinal hernia	Right sided is more common, Femoral hernia is common in females
Inguinal hernia	Superficial ring is an opening in external oblique aponeurosis, Posterior wall is formed by transversalis fascia and conjoined tendon
In examination of patient for a hernia, it is useful to realize that	Internal inguinal ring lies 1.25 cm above the midpoint of poupart's ligament
MC external abdominal hernia	Indirect inguinal hernia
Indirect inguinal hernia	In children indirect inguinal hernia is present on one side, processus vaginalis is on other side, In bubonocele sac lies in inguinal canal
Indirect inguinal hernia arises	Lateral to inferior epigastric artery
True regarding direct hernia	We need to open sac while reducing at surgery
Direct inguinal hernia	Direct hernia medial to inferior epigastric artery
All direct hernia	*Acquired*
Sliding content of large direct hernia	Bladder
Least likely hernia to strangulate	Direct inguinal
Silk glove sign	*Inguinal hernia*
Person worked on radical cure of hernia	Edurado bassini
Sac of inguinal hernia should be opened at	Fundus
Reduction en masse is common in	Inguinal hernia
Preservation of ilioinguinal nerve is an important step while	Incising external oblique aponerurosis
A pt operated for direct inguinal hernia, anesthesia at root of penis and adjacent part of scrotum, nerve injured is	Ilioinguinal nerve (L1)
While releasing constriction at deep inguinal ring, surgeon takes care to avoid injury to	Inferior epigastric artery
Likely to be Injured while removing Constriction of Deep Ring	Inferior Epigastric Artery
Most important step in repair of indirect inguinal hernia	Narrowing of internal ring
Treatment of choice for inguinal hernia in infants	Herniotomy
In Shouldice repair	NO mesh is used
Least recurrence rate is seen in inguinal incisional hernia	Shouldice repair
NOT done in obstructed inguinal hernia	Aspiration of sac for diagnosis, X ray, USG
Patient is advised to avoid strenuous activity following herniorrhaphy for a period of	6 months
Performed in Lichtenstein tension free repair	High ligation of indirect hernia sac, Mesh sutured to

	conjoint tendon and inguinal ligament, Spermatic cord is placed in two tails of internal ring
NOT performed in Lichtenstein tension free repair	Conjoint tendon sutured to inguinal ligament

STRANGULATED HERNIA

Strangulated hernia	Correct hypovolemia, Prepare OT for urgent surgery
First sign of strangulated hernia	Pain
Strangulated external hernia is diagnosed by duration of	Pain
During surgery of hernia, sac of a strangulated hernia is opened at	Fundus
Treatment of Strangulated Hernia	Immediate Surgery

FEMORAL HERNIA

Commonest hernia in female	Indirect inguinal hernia
MC hernia to strangulate	Femoral
Femoral hernia	Pregnancy is common cause
Femoral hernia to pubic tubercle	Lateral and above
Neck of femoral hernia is	Saphenous ring
Neck of femoral hernia	Anterior to inguinal ligament
On average, distance between femoral ring and saphenous opening (length of femoral canal)	1.25 cm
Femoral hernia easily gets	Strangulated
Structure immediately lateral to femoral hernia	Femoral vein
Reduction of Femoral Hernia	*Upwards, forwards and downwards*
Femoral hernia managed by	Bassini repair
Lockwood operation of femoral hernia	Low operation
Femoral hernia	McEvedy operation, Lotheissen operation, Lockwood operation
NOT a treatment of femoral hernia	Trus

GENERAL FEATURES OF DIAPHRAGM

Unilateral elevation of Diaphragm	Scoliosis
Diaphragmatic injury	Left side is more common
Diagnosis of traumatic rupture of diaphragm	Laparascopy, Chest X ray, Repair by laporotomy
Diaphragmatic hernia can occur through	*Esophageal opening, costovertebral angle, costal and sternal attachment of diaphragm*
Eventeration of diaphragm	Developmental defect, Defect is usually muscular
In X ray, loops of bowel on left side of hemithorax and shift of heart shadow	Eventeration of diaphragm, Foramen of Bochdalek hernia, Morgagnian hernia

BOCHDALEK HERNIA

Bockdalek hernia occurs in	Posterolateral part of diaphragm
Hernia through foramen of Bochdaleck	Congenital
Hernia through Bochdolek foramen	Diaphragmatic hernia
Bochdalek hernia	DD for pleuropericardial cyst, Associated with lung hypoplasia
Bochdalek hernia occurs in	Posterolateral part of diaphragm
Foramen of Bochdalek in	Diaphragm
NOT true about Bochdaleck hernia	Occurs on right side, Early respiratory distress is a good prognostic sign

MORGAGNIAN HERNIA

MC site of Morgagni hernia	Right anterior
Morgagni hernia	Through sternal and costal part of diaphragm
MC site of Morgagni hernia	Right anterior
Anterior diaphragmatic hernia	Morgagni hernia
MC viscera to be involved in Morgagnian hernia	Colon

CONGENITAL DIAPHRAGMATIC HERNIA

Diaphragmatic hernia occur through	Esophageal opening, Costovertebral triangle, Costal and sternal attachment of diaphragm
Diaphragmatic hernia does NOT occur through	Inferior venacaval opening
Newborn radiopaque shadow with an air fluid level in chest along with hemivertebra of 6th thoracic vertebra on plain X ray	Congenital diaphragmatic hernia
A newborn with acute respiratory distress on day 1.X ray chest shows numerous gas luscencies in entire left hemithorax, most likely diagnosis	Congenital diaphragmatic hernia
A neonate presents with respiratory distress, contralateral mediastinal shift and multiple cystic air filled lesions in chest. most likely diagnosis	Congenital diaphragmatic hernia
APGAR scores were 3 and 6 at 1 and 5 minutes. at 10 minutes child show features of breathlessness on chest X ray mediastinal shift was there, possible causes	Pneumothorax, Congenital diaphragmatic hernia
Scaphoid abdomen and respiratory distress in a neonate	Diaphragmatic hernia
Child respiratory distress, x ray shows multiple air filled space, NOT a differential diagnosis	Congenital lobar aplasia of lung
NOT seen in Congenital diaphragmatic hernia	Abdominal distension
Cause of death in congenital diaphragmatic hernia	Pulmonary hypoplasia
LEAST important determinant in prognosis of congenital diaphragmatic hernia	Delay in emergent surgery
Diagnostic feature of congenital diaphragmatic hernia on prenatal ultrasonography	Peristalsis in thoracic cavity

Prenatal diagnosis of congenital diaphragmatic hernia	*Fetal USG estimation of lung to head ratio, liver in thoracic cavity*
Bag and mask ventilation contraindicated in	Diaphragmatic hernia
A newborn had normal APGAR score at birth and developed excessive frothing and choking on attempted feeds. investigation of choice	X ray chest and abdomen with red rubber catheter passed per orally into esophagus
Newborn referred to casualty as congenital diaphragmatic hernia. first clinical intervention	Insert a nasogastric tube
Under trial for management of congenital diaphragmatic hernia	*Partial liquid ventilation*

GENERAL FEATURES OF UMBILICUS

Sappey's line	Encircling trunk just above umbilicus
Differential diagnosis of acute funiculitis with a small inguinal swelling	Small strangulated inguinal hernia
Age group presenting with jaundice due to omphalitis in infants	3-6 weeks
A newborn presents with discharge of urine from umbilicus for 3 days.	Urachal fistula
Presents of Urachal fistula is due to	Persistent allantois
Weeping Umbilicus is due to defective development of	Vitellointestinal duct
Bleeding from umbilicus in an adult male during menstruation is suggestive of	Vicarious menstruation

EXOMPHALOS

Exomphalos major should be operated at	Birth
Exomphalos is a disease involving	Abdominal wall

OMPHALOCELE

Cut off for major and minor omphalocele	*4 cm*
In Moore classification of omphalocele, type I umbilical defect is less than	2.5 cm
Covering over omphalocele	Amniotic membrane
Chromosomal anomalies more than 20% associated with	Omphalocele
NOT true about omphalocele	*Defect is open*

GASTROCHISIS

Gastrochisis and omphalocele	Intestinal obstruction is common in gastrochisis, OMPHALOCELE is attached with multiple anomalies,

	Umbilical cord is attached in normal position in gastrochisis
Gastrochisis	Herniation of abdominal contents through body wall
Prognosis of gastrochisis after surgical repair	*Excellent prognosis*

PATENT VITELLOINTESTINAL DUCT

Patent vitellointestinal duct often discharges	Mucus
Patent vitellointestinal duct ideally operated at	6 months

UMBILICAL ADENOMA

Raspberry tumor	Umbilical adenoma
Raspberry tumor	Congenital

TRAUMA

GENERAL FEATURES OF TRAUMA

Ebb and flow model is related to	*Surgery and trauma*
Causes of neurological dysfunction after RTA	Crush injury to hand and lacerated nerve, tight cast or dressing, tourniquet pressure
Seat Belt causes injury to	Mesentery
NOT a principle followed in management of missile injuries	Removal of fragments of bone
Hemostasis in scalp wound is best achieved by	Direct pressure over the wound
External hemorrhage is best controlled by	Direct pressure
First step in multiple injuries of face	Clearing airway
In severe injury, first to be maintained	Airway
40 year man, severe maxillofacial trauma, pulse rate 120/min. BP 100/70 mm Hg.spO2 80% with oxygen	Orotracheal intubation
Clearing airway	Neck tilt, Mouth gag, Chin lift
Treatment of choice for Traumatic rupture of Tympanic Membrane	Tympanoplasty
Treatment of choice for Pin prick injury to eardrum	Wait and watch
Deductive approach is used in finding	*Hidden injuries*

PHYSIOLOGICAL CHANGES AFTER TRAUMA

Early stage of trauma is characterized by	Catabolism
Cyanosis in trauma due to	Late hypoxia
After trauma protein breakdown occurs in	Muscle
NOT a feature of protein metabolism after trauma	Inhibition of skeletal muscle breakdown by interleukin 1

	and TNF
Increased in trauma	Epinephrine, ACTH, Glucagon
Hormone NOT elevated following trauma	Thyroxine
Cause of severe hypotension after RTA	Intrathoracic and abdominal bleed

SCORES FOR TRAUMA

Revised trauma score RTS	Glasgow coma scale, Systolic blood pressure, Respiratory rate
Trauma and injury severity scale TRISS include	RTS + ISS + age
Mangled extremity severity score include	Age, Shock, Ischemia, Energy of injury
Mangled extremity severity score does NOT include	Neurogenic injury

FAST

FAST	Focussed assesment with sonography for trauma
Points in FAST	Epigastrium R and L, lumbar, hypogastrium
Regions focused in FAST	*Hepatic, splenic, pelvic, pericardial*
FAST	*Pericardial effusion left. Liver, right kidney, Morrison pouch. Spleen, left kidney, splenorenal pouch. Urinary bladder, pelvic organ, Pouch of Douglas*

GENERAL FEATURES OF ABDOMINAL INJURIES

Gastric injury	Mostly related to penetrating trauma, treatment is simple debridement and suturing, heals well and fast
NOT true about gastric injury	Blood in stomach always related to gastric injury
Young patient with massive injury to proximal duodenum, head of pancreas and distal common bile duct. procedure of choice	Pancreaticoduodenectomy (whipple operation)
Hepatic injury 1 cm deep laceration extending more than half way through parenchyma	Abdominal exploration and packing of hepatic wounds
Intra abdominal compartment syndrome	Intraabdominal pressure > 15 cm H2O, Decreased venous return, Increased pulmonary capillary wedge pressure, Increased pulmonary inspiratory pressure, Decreased cardiac output, Decreased urine output
NOT a feature of abdominal compartment syndrome	Oliguria due to ureter obstruction
Severe hypertension following RTA, no external injury, cause of hypertension	Intrathoracic and intraabdominal bleed
Hemoperitoneum after trauma, BP 90/60 and PR 140/min	USG is better than CT, Urgent surgery is to done
Investigation of choice for abdominal trauma in hemodynamically stable patient	FAST
Aim of abbreviated laparotomy	Hemostasis
Abdominal injury, signs of peritonitis and shock, airway breathing secured, next step	Exploratory laparotomy under general anaesthesia

Vein avoided for intravenous infusion in management of abdominal trauma	Long saphenous
Aortic transection	Most commonly due to deceleration injury, High mortality, Surgery definitive treatment, Aortography is gold standard
Management of traumatic transaction of femoral artery and vein	Femoral artery repair with vein ligation Repair of artery and vein
Management of traumatic femoral vein transection	Vein repair with continuity

PENETRATING ABDOMINAL INJURIES

Organ most commonly injured in penetrating injury of abdomen	Small intestine
Investigation for stab injury of flank with stable vitals	CECT
Treatment of choice for stab injury caecum	Ileotransverse anastomosis
Treatment of stab injury of cecum with extensive peritoneal soiling is best treated by	*Cecectomy*

BLUNT INJURY ABDOMEN

Blunt trauma common in	Spleen
MC organ injured in blunt trauma abdomen	Spleen
Commonly injured in blunt abdominal injury and also maximal injury to	Proximal jejunum, Ileocaecal junction
Blunt injury trauma and hemodynamically stable. next line of management	Further imaging of abdomen
Blunt injury abdomen, patient is hemodynamically stable, next investigation	FAST
Investigation of choice for blunt abdominal trauma with hematuria	CECT
Ideal for evaluation of blunt abdominal trauma	CT scan
Best traumatic aid in blunt trauma abdomen	Ultrasound
Investigation of choice for blunt trauma abdomen in unstable patient	USG
Blunt injury abdomen after RTA. Airway established and respiration stabilized. next management	Blood for cross matching and iv fluids
Indication of celiotomy in blunt trauma	Peritoneal air on imaging, Positive DPL, Severe hypotension
Preferred incision for abdominal exploration in Blunt injury abdomen	Always midline incision
Blunt trauma presenting with shock NOT responding to crystalloids	Immediate laparotomy
Blunt injury to abdomen	Rarely need urgent laparotomy

CHEST INJURIES

MC cause of death in blunt injury and also penetrating injury to chest	Tracheobronchial rupture
A patient met with an accident, presents with engorged neck veins, pallor, rapid pulse and chest pain	Cardiac tamponade
After stab injury, rupture of which part of heart will cause less bleeding	Left ventricle
Chest trauma	ECG is done in all cases associated with chest trauma, Under water seal drainage if associated with pneumothorax, X ray is the investigation of choice
A man sustained car accident, causes posterior displacement of clavicle at sternoclavicular joint. The structure most likely injured	*Trachea*
Commotio cordis is seen in	*Baseball*
MC complication of blunt injury thorax	Rib fracture
No breath sounds after injury in right lung field, resonant to percussion	Tube thoracostomy
Steering wheel injury on chest of a young man, multiple fractures of ribs and paradoxical movement with severe respiratory distress. X ray shows pulmonary contusion on right side without pneumothorax. treatment of choice	Endotracheal intubation and mechanical ventilation
Stab injury to chest. Hemodynamically stable, neck veins engorged, heart sounds muffled. NOT done	Immediate emergency room thoracotomy done
Emergency thoracostomy is indicated only in	Uncontrolled bleeding
Emergency thoracotomy NOT needed for	Hemodynamically stable patient
NOT an indication for thoracotomy after blunt injury of chest	Rib fracture
Area in which injection to anesthetize pain from a fracture of seventh rib should be given	*Seventh intercostal space immediately below seventh rib just lateral to angle of rib*
NOT a treatment of rib fracture	*Strapping of chest*

FLAIL CHEST

Flail chest	Chest wall movements inward during respiration, Fracture of 3 or 4 ribs, Ultimately leads to respiratory failure
Chest injury having worst prognosis	Flail chest
NOT true about flail chest	Paradoxical chest movement NOT seen in unconscious patient
Treatment of choice in severe flail chest	Intermittent positive pressure ventilation
Man met RTA. Fracture of 4th to 10th rib and respiratory distress. flail chest.PO2 < 60%.management	IPPV with oral intubation

SPLENIC INJURIES

RTA,BP 100/60,PR 120,CT shows splenic laceration at	Continue conservative treatment and take subsequent

inferior border 2 units blood transfused, condition stable. management	measures on monitoring the patient
Treatment of choice for splenic trauma in a child which is hemodynamically stable	Observation
Hypovolemic shock after blunt trauma. USG shows splenic tear	Immediate surgery
Grade III splenic injury, hemodynamically stable	Conservative
Grade III splenic injury with CONTRAST BLUSH hemodynamically stable	Splenic artery embolisation
Splenic laceration, pneumoperitoneum created and pO2 dropped. cause	Gaseous embolism through splenic vessels

BLAST INJURIES

MC organ injured in underwater blast	*GIT*
Primary blast injuries follow	*Inverse square law*
Commonest organ injured in primary blast injuries	Lung
MC organ involved in Blast wave injury	Ear drum
In a blast injury, least vulnerable to blast wave	Liver

RHABDOMYOLYSIS AND CRUSH INJURY

Causes of rhabdomyolysis	Hypokalemia, Hypophosphatemia, Cocaine intoxication, Crush injury
Cause of rhabdomyolysis	Viper bite, Multiple hornet stings, Clostridium perfringens, Streptococcus, Hyperpyrexia, Hypothyroidism
Features of rhabdomyolysis	Hyperuricemia, Hyperphosphatemia, Hypocalcemia, Increased creatine kinase, Acute muscular weakness, Myoglobinuria, Acute renal failure
After vigorous activity, an athlete presents with red coloured urine	Myoglobinuria
MC cause of recurrent myoglobinuria	**CPT II deficiency**
CPT II deficiency is associated with	*Hypoglycemia, hypoketosis, hyperammonemia, hypercarnitine*
NOT a feature of rhabdomyolysis	Hemoglobinuria
Young boy, sustained crush injury, most likely to develop	Acute renal failure
First done in management of rhabdomyolysis with acute renal failure	Alkali diuresis

BURNS AND THERMAL INJURIES

GENERAL FEATURES OF BURNS

MC infection in dry burn wound	Pseudomonas
Layer in skin cause vesicular change in case of burn	Dermis
False vesication differs from true vesication	Productive after death, Vesicle contain gas and no fluid, No inflammatory or respiratory zone present
Burn or heat hematoma is seen between	Skull and dura
Initially colonizing burn wound	Staphylococci
NOT associated with rise of temperature after death	Burns
Metabolic derangement in burns	Increased corticosteroid secretion, hyperglycemia, neutrophil dysfunction
Ebb phase in burns	*Hypoglycemia due to insulin*
Abb phase in burns	*Hyperglycemia due to counter regulatory hormones*
Fever in burnt patient is caused by	Hypermetabolism, infection
Undue restlessness in burn patient in immediate post burn period is due to	Anxiety
Heat loss in burns due to	Exposed area by evaporation
Hyperglycemia seen in	Early burns
Pus in burns form in	2-3 days
Burnt hand position	*Flexion of PIP, extension of DIP, blisters are formed*
NOT true about burns	Anesthesia of region involved
Least useful in excessive burn	Blood
Most common cause of death due to burns in early period	Hypovolemic shock
MC cause of death in burns patient	Septic shock
Cause of death causing elevated level of cyanide	Thermal burns
Late death in burns due to	Sepsis
NOT a cause of death in burns patient	Air embolism
Adult man gets burn injury to his hands. Over few weeks burned skin heals without need for skin grafting. Most critical factor responsible for rapid healing in this case	Remnant skin appendages
Burn tissue sepsis	**>10^5 bacteria per gram in burn tissue**
Sterile needle test	Depth of burn
Prognosis in burn depend on	Time of resuscitation of patient
Wallace rule of 9 for burns does NOT apply to	Infants, Children, Elderly
Burns patient is referred	Scald in face, 25% deep burn in adult, Burn in palm

TYPES OF BURNS

Superficial burns	Erythema, Painful, NO scar, NO blister, Can be healed within 7 to 10 days

Burns with vesication, destruction of epidermis and upper dermis	2nd degree
Sunburns involving upper layer of dermis are	Second degree burns
Feature of deep second degree burn	Hypoaesthesia, thrombosis of vessel base
NOT seen in deep burns	Hyperthermia, blister, pain
Third degree circumferential burn in arm and forearm region. Most important is monitoring of	Peripheral pulse and circulation
Non viable skin of 3rd degree burn	Eschar

PUGILISTIC ATTITUDE

Pugilistic attitude	Burns
Pugilistic attitude	Due to heat stiffening, Antemortem position of generalized flexion
Punch drunk syndrome is seen in	Boxers
Pugilistic attitude	Can NOT differentiate between antemortem and postmortem wound, Occurs due to intense heat
Pugilistic attitude is due to	Protein coagulation

PERCENTAGE OF BURNS

5 year old child presents to emergency department with burns, burn area corresponding to his size of palm	1% BSA
Palmar surface of patients hand	1%
Percentage of burns in infants in head and neck	17%
Burns Percentage in Infants, Head & Neck Involved	19%
Percentage of burns involving whole back and each of lower limb	36%
Adult lower limb charred with genitalia	37%
Percentage of burns in an adult male sparing limbs and perineum	45%
2 yr child with burns all over face and scalp and thigh	45%

TREATMENT OF BURNS

Exposure treatment is used in burns of	Head & Neck
NO need for dressing in	Superficial wound without blister
Ideal temperature of water to cool burnt surface	15*C
Disadvantage of cold water treatment in burns	Infection
Successful antibiotic penetration of burn eschar can be achieved with	Mafenide acetate
Mafenide is effective as an 11.1% suspension in a water soluble cream base in	Staph.aureus, Clostridia, Streptococcus
Mechanism of action of mafenide	**Carbonic anhydrase inhibitor**
Side effect of mafenide	**Metabolic acidosis**
Drawback of Mafenide application	Painful
Application in burns leading to Methemoglobinemia	Silver sulphadiazine

Cells commonly affected by silver sulphadiazine cream	Neutrophils
Subeschar clysis	**Direct instillation of antibiotic**
Most important in management of burn injury in first 24 hours	Fluid resuscitation
MC used fluid for burn patient initially	Crystalloid
Parkland formula	% BSA * weight in Kg * 4 = volume in ml
Parkland formula	Ringer lactate
Amount of iv fluid 24 hours to a women of 50 kg with 90% of burns	10 litres
Half of calculated fluid in	Initial 8 hours
Best guide to adequate tissue perfusion in fluid management of a patient with burns is to ensure minimum hourly urine output of	30-50 ml
Deep skin burns treated with	Split thickness graft
Escharotomy should be done for	Peripheral circumscribed lesion
NOT used in burns	*TPN*

THERMAL INJURIES

Hyperpyrexia	**Temperature >41.5*C**
Thermal injury	Rule of nine, Lund and Browder chart, Burn index combines depth and area, Head forms maximum area in children
Thermal burn injury	Zone of stasis associated with vascular damage, hyperthermia due to vasodilatation
NOT true about thermal injury	In child below 5, genitals for 1% of area

HEAT EXPOSURE

System effects of heat exposure	Heat cramps, Heat Prostration, Heat stroke
Heat stiffening occurs in temperature above	60*C
Difference between post burn rupture (heat rupture) and incised wound	Seen in front of thigh, Intact blood vessels and nerve at floor of wound, Small and multiple
A person working in hot environment who consumes more H2O without salt is likely to develop	Heat cramps
Burn hematoma is seen between	*Skull and dura*

HEAT STROKE

Most advanced stage of heat injury	*Heat stroke*
Must present for diagnosis of heat stroke	*Neurological impairment*
Sweating is NOT seen in	Heat stroke

HEAT RUPTURE

Heat rupture is characterized by	Irregular margins
Heat rupture	Clotted blood vessel
Feature of heat rupture	Nerves and vessels around are visible in floor

LIGHTNING

Filigree burns/Arborescent burns	Lightning
Arborescent marks	Lightening
Marks like branching of tree in front of chest	Lightening injury
Lightning flash can cause injury by	Direct effect of electric current, Superheated air, Expanded and repelled air, Compressed air pushed BEFORE (not in front of) current
Most dangerous type of lightning	*Cloud to ground lightning*

ELECTROCUTION

Electrocution	*AC is more dangerous*
Joule burn	Electrocution
Crocodile skin appearance	High voltage burn
Suspended animation seen with	Electrocution
Important feature in electrocution death	Voltage
Zenker's degeneration is seen in	Electrocution